



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/762,972

01/22/2004

Annie O. Chen

BCS03214

6354

43471

7590

09/08/2009

Motorola, Inc.

Law Department

1303 East Algonquin Road

3rd Floor

Schaumburg, IL 60196

EXAMINER

IDOWU, OLUGBENGA O

ART UNIT

PAPER NUMBER

2425

NOTIFICATION DATE

DELIVERY MODE

09/08/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.US@motorola.com

Office Action Summary	Application No. 10/762,972	Applicant(s) CHEN ET AL.	
	Examiner OLUGBENGA O. IDOWU	Art Unit 2425	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/24/2009 have been fully considered but they are not persuasive.

In response to applicant's arguments with regards to claims 1, 8, 14 and 20 with regards to the combination of Fichet and Hendricks not teaching "protecting said first authorization data at said master headend". As it can be clearly seen, Fichet teaches the broadcast center which is interpreted as the headend having conditional access system partially located in it. As it can be clearly seen in Fig. 2, element 42 is associated with multiplexer 4 which makes up part of the broadcast center. As it is also seen in col. 7, lines 14 - 22, the ECM is encrypted in encrypting unit 42 and transmitted to multiplexer 4. From this, it can be clearly seen that Fichet teaches the steps of encrypting the authorization data at the headend. Fichet does not teach the concept of a master and a local headend but Hendricks was brought in to cover this limitation in Fig. 1, 202, 208 col. 6, lines 27 - 40 col. 8, lines 20 - 49, col. 9, lines 16 - 24.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2425

3. Claims 1 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fichet, patent number: US 7 092 729 B1 in view of Hendricks, US 7 207 055B1.

Fichet teaches:

As per **claim 1**, A method of providing access protection in a digital television distribution system (Fig. 1 is of a conventional digital television system that has access protection systems 15 and 16), comprising: defining first authorization data (Entitlement control message(ECM), col. 7, line 15) associated with content services (programs, col. 6, line 10), (ECM, this is a message sent in relation with one scrambled program, col. 7, lines 15- 16); protecting said content services (Programs transmitted by the system (multichannel system, col. 5, line 58) are scrambled at the multiplexer 4, col. 6, lines 10- 11); protecting said first authorization data (In this unit(referring to unit 46 attached to multiplexer 4), an ECM is generated, encrypted, col. 7, lines 19 -22); and generating digital transport

stream data from said protected content services and said protected authorization data (the multiplexer 4 receives electrical signals comprising...encrypted ECMs from the second encrypting unit...The multiplexer scrambles the programs and transmits the scrambled programs, the encrypted ECMs and the encrypted ECMs, col. 7, lines 31 - 42) for transmission to each said at least one local headend (The receiver/decoder receives the broadcast signals, col. 7, line 43).

Art Unit: 2425

Fichet does not teach content being transmitted to a local headend by a master headend.

In an analogous art, Hendricks teaches content being transmitted to a local headend by a master headend (Fig. 1, 202, 208 col. 6, lines 27 - 40 col. 8, lines 20 – 49, col. 9, lines 16 - 24)

Therefore, it would have been obvious to one of ordinary skill in the art to modify Fichet by including a local headend as described in Hendricks' transmission system, for the advantages of maximizing the use of bandwidth by distributing programs based on regions and by being able to further customize the content being sent to viewers.

As per **claim 2**, The method of claim 1, further comprising: defining second authorization Data (Fichet: Entitlement Management Message (EMM), col. 8, line 14) associated with said digital transport stream data (Fichet: The multiplexer 4 scrambles the programs and transmits the scrambled programs, the encrypted EMMs and the encrypted ECMs as electric signal to broadcast system, col. 7, lines 34 - 42); and multiplexing said second authorization data with said digital transport stream data (Fichet: the multiplexer 4 scrambles the programs and transmits the scrambled programs, the encrypted EMMs and encrypted ECMs, col. 7, lines 34- 36)

As per **claim 3**, The method of claim 1, wherein said first authorization data comprises first entitlement management messages (Fichet: access criteria, The control word and the access criteria are used to build an entitlement control message(ECM), col. 7, lines

Art Unit: 2425

4 -13) configured to authorize set-top boxes for viewing said content services(Fichet: Access criteria... thus getting the rights to watch every channel inside those bouquet, col. 7, lines 4 -13), and wherein said step of protecting said content services comprises encrypting(Fichet: scramble, col. 6, line 11) said content services.

As per **claim 4**, The method of claim 3, wherein said step of protecting said first authorization data comprises: generating at least one service in response to said first entitlement management messages(Fichet: access criteria are used to build an Entitlement Control Message, col. 7, lines 14-15; to build is seen here as a service); and encrypting said at least one service to generate encrypted service data(ECM is generated and encrypted, col. 7, lines 21).

As per **claim 5**, The method of claim 4, further comprising: defining second entitlement management messages (Fichet: control word, col. 7, line 1) configured to authorize receiver circuitry of each said at least one local headend for decrypting one or more services (Fichet: the control word is generated internally and enables the end user's integrated receiver/decoder to descramble the program, col. 7, lines 1-3) of said encrypted service data; and multiplexing said second entitlement management messages with said digital transport stream data(Fichet: the multiplexer 4 scrambles the programs and transmits the scrambled programs, the encrypted EMMs and the encrypted ECMs(control word and access criteria), col. 7, lines 31 – 42, col. 7, lines 21-22).

As per **claim 6**, The method of claim 5, further comprising: modulating a carrier with said digital transport stream data (Fichet: demodulator 252 for receiving and demodulating the broadcast signal, col 12, lines 17 – 18, broadcast signal is the signal that contains the program, col. 7, lines 43-44; the programs had to be modulated at a point for it to get demodulated); transmitting said carrier (Fichet: The EMM is then transmitted in the broadcast signal for reception by the receiver/decoder 13, col. 12, lines 13- 15) to each said at least one local headend via a shared distribution medium (Fichet: transmission of data are of course possible, such as cable transmission, col. 5, lines 44 – 47); demodulating said carrier at each said at least one local headend to recover said digital transport stream data (Fichet: the demodulated signal is passed to the demultiplexer 254, which separates the various components of the signal, col. 12, lines 16 -25) ; and decrypting one or more services (Fichet: Demultiplexer/Descrambler Fig. 7, block 254) of said encrypted service data in response to said second entitlement management messages(Fichet: control word for descrambling of data, col. 6, line 16).

As per **claim 7**, The method of claim 6, further comprising: modulating a second carrier with said digital transport stream data (Fichet: the MPEG-2 stream is decompressed and translated into a video signal, col. 7, lines 55 - 56); and transmitting said second carrier over a cable transmission path to set-top boxes (Fichet: into a video signal for onward transmission to a television set 14, col. 7, lines 55-56; transmission of data are

Art Unit: 2425

of course possible, such as cable transmission, col. 5, lines 44 – 47, television having a receiver/decoder integrated therein, col. 5, line 57).

As per **claim 8**, An apparatus for providing access protection in a digital television distribution system(Fig. 1 is of a conventional digital television system that has access protection systems 15 and 16), the apparatus comprising: a first conditional access system (encrypting unit 42, col. 7, line 20) for defining first authorization data(Entitlement control message(ECM), col. 7, line 15, the access criteria and the control word are transmitted to the second encrypting unit 42, in this unit, an ECM is generated, col. 7, lines 14-22) associated with content services(programs, col. 6, line 10) (ECM, this is a message sent in relation with one scrambled program, col. 7, lines 15- 16); a first encryption unit, for encrypting said content services(Programs transmitted by the system (multichannel system, col. 5, line 58) are scrambled at the multiplexer 4, col. 6, lines 10-11); a second encryption unit(unit 42, Fig. 2), for encrypting said first authorization data(In this unit(referring to unit 42 attached to multiplexer 4), an ECM is generated, encrypted, col. 7, lines 19 -22); and a multiplexer for multiplexing said encrypted content services and said encrypted first authorization data to generate digital transport stream data (the multiplexer 4 receives electrical signals comprising...encrypted ECMs from the second encrypting unit...The multiplexer scrambles the programs and transmits the scrambled programs, the encrypted EMMs and the encrypted ECMs, col. 7, lines 31 - 42) for transmission (The receiver/decoder receives the broadcast signals, col. 7, line 43) over a shared

Art Unit: 2425

distribution medium (transmission of data are of course possible, such as cable transmission, col. 5, lines 44 – 47).

Fichet does not teach content being transmitted to a local headend by a master headend.

In an analogous art, Hendricks teaches content being transmitted to a local headend by a master headend (Fig. 1, 202, 208 col. 6, lines 27 - 40 col. 8, lines 20 – 49, col. 9, lines 16 - 24)

Therefore, it would have been obvious to one of ordinary skill in the art to modify Fichet by including a local headend as described in Hendricks' transmission system, for the advantages of maximizing the use of bandwidth by distributing programs based on regions and by being able to further customize the content being sent to viewers.

As per **claim 9**, The apparatus of claim 8, further comprising: a second conditional access system (Fichet: SAS 30, col. 8, line 1) for defining second authorization data(Fichet: Entitlement Management Message (EMM), col. 8, line 14, SAS 30 which imply modification to or creation of Entitlement Management Messages, col. 8, line 1) associated with said digital transport stream data(Fichet: The multiplexer 4 scrambles the programs and transmits the scrambled programs, the encrypted EMMs and the encrypted ECMs as electric signal to broadcast system, col. 7, lines 34 - 42); where said multiplexer multiplexes said second authorization data with said digital transport stream data(Fichet: the multiplexer 4 scrambles the programs and transmits the scrambled programs, the encrypted EMMs and encrypted ECMs, col. 7, lines 34- 36)

Art Unit: 2425

As per **claim 10**, The apparatus of claim 8, wherein said first authorization data comprises first entitlement management messages (Fichet: access criteria, The control word and the access criteria are used to build an entitlement control message(ECM), col. 7, lines 4 -13) configured to authorize set-top boxes for viewing said content services (Fichet: thus getting the rights to watch every channel inside those bouquet, col. 7, lines 4 -13).

As per **claim 11**, the apparatus of claim 10, further comprising: a second multiplexer for multiplexing said first entitlement management messages with control data to generate at least one service (Fichet: The access criteria and control word are transmitted to the second encrypting unit 42 via the linkage 46. In this unit, an ECM is generated, col. 7, lines 19 -21); where said second encryption unit encrypts said at least one service to generate encrypted service data (Fichet: In this unit(42) the ECM is generated, encrypted and transmitted o to the multiplexer, col. 7, lines 21 -22).

As per **claim 12**, The apparatus of claim 11, further comprising: a second conditional access system(Fichet: SAS 30, col. 8, line 1) for defining second entitlement management(Fichet: Entitlement Management Message (EMM), col. 8, line 14, SAS 30 which imply modification to or creation of Entitlement Management Messages, col. 8, line 1) messages configured to authorize receivers of each said at least one local headend for decrypting one or more services of said encrypted service data(Fichet: Access criteria... thus getting the rights to watch every channel inside those bouquet,

Art Unit: 2425

col. 7, lines 4 -13) wherein said multiplexer multiplexes said second entitlement management messages with said digital transport stream data(Fichet: the multiplexer 4 scrambles the programs and transmits the scrambled programs, the encrypted EMMs and the encrypted ECMs(control word and access criteria), col. 7, lines 31 – 42, col. 7, lines 21-22).

As per **claim 13**, The apparatus of claim 8, wherein said shared distribution medium comprises at least one of a satellite link, a terrestrial broadcast link (terrestrial broadcast, col. 5, line 45), a fiber distribution medium, and the Internet.

As per **claim 14**, A digital television distribution system (Fig. 1 is of a conventional digital television system), comprising: transmitting television signals over a shared distribution medium (cable transmission, col. 5, line 46), comprising: a first conditional access system(encrypting unit 42) for defining first authorization data(Entitlement control message(ECM), col. 7, line 15, the access criteria and the control word are transmitted to the second encrypting unit 42, in this unit, an ECM is generated, col. 7, lines 14-22) associated with content services(programs, col. 6, line 10) (ECM, this is a message sent in relation with one scrambled program, col. 7, lines 15- 16); a first encryption unit for encrypting said content services(Programs transmitted by the system (multichannel system, col. 5, line 58) are scrambled at the multiplexer 4, col. 6, lines 10-11); a second encryption unit(Unit 42, Fig. 2) for encrypting said first authorization data(In this unit(referring to unit 42 attached to multiplexer 4), an ECM is generated, encrypted, col. 7, lines 19 -22); a multiplexer for multiplexing said encrypted content

Art Unit: 2425

services and said encrypted first authorization data to generate digital transport stream data(the multiplexer 4 receives electrical signals comprising...encrypted ECMs from the second encrypting unit...The multiplexer scrambles the programs and transmits the scrambled programs, the encrypted EMMs and the encrypted ECMs, col. 7, lines 31 - 42); and a modulator for modulating a carrier with said digital transport stream data(demodulator 252 for receiving and demodulating the broadcast signal, col 12, lines 17 – 18, broadcast signal is the signal that contains the program, col. 7, lines 43-44; the programs had to be modulated at a point for it to get demodulated); receiving said television signals from a satellite(Fig. 1, 12), said receiver comprising: a demodulator(Fig. 7, 252) for demodulating said carrier to recover said digital transport stream data; and a decoder(Smartcard 48... the daughter smart 48 controls whether the end user has the right to decrypt the ECM and to access the program, col. 7, lines 43-57) for decrypting said first authorization data.

Fichet does not teach content being transmitted to a local headend by a master headend.

In an analogous art, Hendricks teaches content being transmitted to a local headend by a master headend (Fig. 1, 202, 208 col. 6, lines 27 - 40 col. 8, lines 20 – 49, col. 9, lines 16 - 24)

Therefore, it would have been obvious to one of ordinary skill in the art to modify Fichet by including a local headend as described in Hendricks' transmission system, for the

Art Unit: 2425

advantages of maximizing the use of bandwidth by distributing programs based on regions and by being able to further customize the content being sent to viewers.

As per **claim 15**, The system of claim 14, wherein said master headend further comprises: a second conditional access (Fichet: SAS 30, col. 8, line 1) system for defining second authorization data(Fichet: Entitlement Management Message (EMM), col. 8, line 14, SAS 30 which imply modification to or creation of Entitlement Management Messages, col. 8, line 1) associated with said digital transport stream data(Fichet: The multiplexer 4 scrambles the programs and transmits the scrambled programs, the encrypted EMMs and the encrypted ECMs as electric signal to broadcast system, col. 7, lines 34 - 42); where said multiplexer multiplexes said second authorization data with said digital transport stream data(Fichet: the multiplexer 4 scrambles the programs and transmits the scrambled programs, the encrypted EMMs and encrypted ECMs, col. 7, lines 34- 36).

As per **claim 16**, The system of claim 14, wherein said first authorization data comprises first entitlement management messages (Fichet: Access criteria, col. 7, lines 4 -13) configured to authorize set-top boxes for viewing said content services (Fichet: Access criteria... thus getting the rights to watch every channel inside those bouquet, col. 7, lines 4 -13).

As per **claim 17**, The system of claim 16, wherein said master headend further comprises: a second multiplexer for multiplexing said first entitlement management

Art Unit: 2425

messages with control data to generate at least one service(Fichet: The access criteria and control word are transmitted to the second encrypting unit 42 via the linkage 46. In this unit, an ECM is generated, col. 7, lines 19 -21); where said second encryption unit encrypts said at least one service to generate encrypted service data(Fichet: In this unit(42) the ECM is generated, encrypted and transmitted o to the multiplexer, col. 7, lines21 -22).

As per **claim 18**, The system of claim 17, wherein said master headend further comprises: a second conditional access system (Fichet: SAS 30, col. 8, line 1) for defining second entitlement management messages(Entitlement Management Message (EMM), col. 8, line 14, SAS 30 which imply modification to or creation of Entitlement Management Messages, col. 8, line 1) configured to authorize said decoder of said local headend for decrypting one or more services of said encrypted service data(Fichet: Access criteria... thus getting the rights to watch every channel inside those bouquet, col. 7, lines 4 -13) wherein said multiplexer multiplexes said second entitlement management messages with said digital transport stream data(Fichet: the multiplexer 4 scrambles the programs and transmits the scrambled programs, the encrypted EMMs and the encrypted ECMs(control word and access criteria), col. 7, lines 31 – 42, col. 7, lines 21-22).

Art Unit: 2425

As per **claim 19**, The system of claim 14, wherein said shared distribution medium comprises at least one of a satellite link, a terrestrial broadcast link (Fichet: terrestrial broadcast, col. 5, line 45), a fiber distribution medium, and the Internet.

As per **claim 20**, An apparatus for providing access protection in a digital television distribution system(Fichet: (Fig. 1 is of a conventional digital television system that has access protection systems 15 and 16), the method comprising: means for defining first authorization data(Fichet: the access criteria and the control word are transmitted to the second encrypting unit 42, in this unit, an ECM is generated, col. 7, lines 14-22) associated with content services(Fichet: programs, col. 6, line 10) (Fichet: ECM, this is a message sent in relation with one scrambled program, col. 7, lines 15- 16); means for protecting said content services (Fichet: Programs transmitted by the system (multichannel system, col. 5, line 58) are scrambled at the multiplexer 4, col. 6, lines 10-11); means for protecting said first authorization data (Fichet: In this unit(referring to unit 42 attached to multiplexer 4), an ECM is generated, encrypted, col. 7, lines 19 -22); and means for generating digital transport stream data from said protected content services and said protected authorization data for transmission over a shared distribution medium (Fichet: the multiplexer 4 recieves electrical signals comprising...encrypted ECMs from the second encrypting unit...The multiplexer scrambles the programs and transmits the scrambled programs, the encrypted EMMs and the encrypted ECMs as electric signals to broadcast system 54 which may be for example the satellite system shown in Fig. 1, col. 7, lines 31 – 42).

Fichet does not teach content being transmitted to a local headend by a master headend.

In an analogous art, Hendricks teaches content being transmitted to a local headend by a master headend (Fig. 1, 202, 208 col. 6, lines 27 - 40 col. 8, lines 20 – 49, col. 9, lines 16 - 24)

Therefore, it would have been obvious to one of ordinary skill in the art to modify Fichet by including a local headend as described in Hendricks' transmission system, for the advantages of maximizing the use of bandwidth by distributing programs based on regions and by being able to further customize the content being sent to viewers.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2425

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLUGBENGA O. IDOWU whose telephone number is (571)270-1450. The examiner can normally be reached on Monday to Friday, 7am - 5pm Est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Pendelton can be reached on 571 272 7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Olugbenga O Idowu/
Examiner, Art Unit 2425

/Brian T. Pendleton/
Supervisory Patent Examiner, Art Unit 2425